

# **UFOs – UNSOLVED: A SCIENTIFIC CHALLENGE**

**James E. McDonald**

**Institute of Atmospheric Physics**

**The University of Arizona**

**(Presented June 10, 1969, Washington, D.C., in a talk sponsored  
by the National Investigations Committee on Aerial Phenomena -  
NICAP)**

**\* \* \***

**"If in any branch of knowledge the possibilities of penetrating a new, virgin field of investigation are opening, then it must be done without fail, because the history of science teaches that, as a rule, it is precisely this penetration of new fields that leads to the discovery of those very important phenomena of nature which most significantly widen the paths of the development of human culture."**

**– P. L. Kapitza, quoted in "Space Handbook: Astronautics and its Applications," House Committee on Science and Astronautics, 1959.**

**"By far the most usual way of handling phenomena so novel that they would make for a serious rearrangement of our preconceptions is to ignore them altogether, or to abuse those who bear witness to them,"**

**– Wm. James, "Pragmatism," 1907.**

\* \* \*

## RÉSUMÉ

When one looks back, as I wish to ask you to do tonight, on the past 22 years of reports of unconventional objects seen in our skies, one is forced to conclude that the scientific challenge posed by the UFO problem has not evoked the kind of response for which Kapitza was pleading in the above quote. Rather it seems that the more disillusioned viewpoint of William James applies.

But it is quite important to realize that the history of science is just about as full of instances of the one kind of response as the other. Lavoisier brushed aside reports of what we now call meteorites with the suggestion that they resulted from lightning hitting certain kinds of soil or rock. Humphreys, an outstanding American meteorologist, could review dozens of reports of ball lightning only to come up with the conclusion that negative afterimages and other illusory effects were responsible for the reports. Lord Kelvin, upon hearing of Roentgen's X-ray discoveries in 1896, felt sure they were only an elaborate hoax. Skeptics who rejected Pasteur's radical views concerning the role of airborne microorganisms in spreading disease scoffingly pointed out that his ideas were absurd because, if there were such things floating around in the air all the time, we'd be inhaling them with every breath we took. Just four years before nuclear fission was demonstrated, Rutherford insisted in a speech before the British Association for the Advancement of Science that, "Anyone who talks about getting power out of the transformation of atoms is talking moonshine!" About two weeks before the Wright brothers got into the air, astronomer Simon Newcomb published a sober and seemingly authoritative article in the *North American Review*, explaining that, since lift increases only as the square of the linear scale of a flying device, whereas mass increases as the cube of the dimensions, it would remain forever out of the question that any heavier-than-air objects much larger than a bird would ever be able to fly. (And to tell one on myself in order to keep due balance, I recall my unexpressed reactions of more than

mere incredulity when a colleague, Dr. Aden Meinel, first brought to my attention a decade ago the idea of putting a telescope into orbit for extended astronomical observing. That certainly sounded utterly impractical to me! The OAO launched 12/69 is now in polar orbit, gathering UV data on stars at a rate about 5000 times faster than all prior methods.)

However, in studying a much longer list of such examples that I have in my files, I note that one must try to be careful to separate out expressions of skepticism such as Rutherford's or Kelvin's, in which the declaration of doubt was made in a context such that there was no paralyzing effect on others who might disagree; one must treat such cases much more lightly than those other instances in which the scorn and the rejection of new conceptions came from scientists whose very position lent unfortunately heavy weight to their negativity, scientists whose position demanded that they make a much more thorough review of the facts in the case before pronouncing that the bumblebee can't fly, that the chemical composition of the sun and stars must remain forever unknown to us, that stones can't fall out of the sky, that visitation from intelligent extraterrestrial beings is not possible in the next 10,000 years, that there is nothing of scientific significance in the UFO problem warranting further serious attention, and so on.

The cases that go down in scientific history's catalog of unconscionably closed minds are those that parallel the French Academy's late eighteenth century insistence that one cannot believe what all those peasants are saying about stones falling out of the sky, above all when it's abundantly clear that nothing in the beautiful Newtonian synthesis supports such absurdities. Those are the disillusioning instances to review if one has a notion that Science always operates in the judgment-suspending, testimony-balancing, always-ready-to-reconsider manner that some textbooks would have students believe.

We have, I believe, another such instance before us this year. Following upon a long series of prior assurances from

the scientists who have, in one way or another, contributed to two decades of Air Force assurances that there's nothing to all this talk about UFOs, nothing "defying explanation in terms of present-day science or technology" (to use the oft-reiterated Pentagon press-desk phrase), we have recently been given the Condon Report on UFOs with its Conclusions and Recommendations that add up to about the same phrase with which Dr. Irving Langmuir, back in 1948, offered one of the first bits of advice the Air Force got on UFOs: "Forget it!" The same advice came from scientists and engineers called in to advise Project Sign in 1949, from the famous Robertson Panel whose mere three days of case analyses back in 1953 led to decidedly adverse over-all recommendations, from staff members of the Battelle Memorial Institute who participated in Bluebook Report 14's well-known writeoff of the UFO problem, from Bluebook consultant J. A. Hynek's nearly twenty years of failure to vigorously and thoroughly study the subject on which he served as the sole continuing Air Force scientific advisor, and from a lot of other less well-known technical advisors who helped convince the Air Force that the UFO problem was a trivial matter. As nearly as I have been able to discern, probably the best scientific advice ever laid before the Air Force resulted from a morning session of the *Ad Hoc* UFO Committee (O'Brien Comm.) of the Air Force Scientific Advisory Board, whose roughly three-hour review of Project Bluebook in February, 1966, discerned the serious lack of scientific content in Bluebook's operations and urged creation of an independent university-based study of UFOs to shed some real light on the matter.

The O'Brien Committee was assembled as a consequence of Air Force concern over bad public relations growing out of the August, 1965, wave of sightings throughout the Midwest. The O'Brien Committee's recommendations came to light and were put into action as a consequence of Air Force discomfiture over public indignation aroused by Hynek's "swamp gas" explanation in two UFO incidents in southern Michigan, March 20-21, 1966.

The net result, as we all know, has been the Condon Report. Dr. Condon has advised the Air Force that it might as

well disband Project Bluebook and has urged that no other governmental response is justified on any grounds that science would be furthered by pursuit of the UFO question. An 11-man review panel of the National Academy of Sciences has unequivocally endorsed Condon's negative recommendations.

The title that I have chosen for my remarks this evening attests to the fact that I unequivocally reject Condon's negative recommendations and conclusions.

On the basis of my examination of the UFO problem during the past three years, I regard it as probably the outstanding scientific problem of the century. I believe the evidence clearly shows that Dr. Condon, like a number of other scientists who have previously had responsibilities in advising the Air Force on its task of sorting out the mysteries of the steady flow of UFO reports, really never opened his eyes to the significant evidence, never dug in and undertook the kind of extensive case-checking and witness-interviewing that leads one to see that in the UFO problem we are probably confronting a phenomenon of unprecedented scientific significance.

I have been told that many NICAP members are writing in to say they aren't interested in hearing any more about the Condon Report and all of its many shortcomings. My advice to NICAP on that score would be to reflect on the all-too-clear evidence that Condon's negative conclusions have been received in the offices that count, here in Washington, as definitive indication that it's high time to forget all this nonsense about UFOs. Reflecting on that point, on the goals that have led NICAP over the past dozen years to push steadily for increased scientific and Congressional attention to the UFO problem, NICAP members should sense that, until the substantial shortcomings of the Condon Report are clearly documented and elaborated, no real progress towards further significant elucidation of the UFO enigma will be forthcoming here in Washington. And that would be most unfortunate.

NICAP's contributions to clarification and airing of the UFO problem are most impressive, above all when measured against the shoestring budgets on which NICAP has had to operate. The goal of a truly adequate and truly open Congressional hearing on the entire spectrum of UFO questions has been a major NICAP target almost since its inception in 1956. That goal still lies ahead; and it certainly will not be attained if the credence now given to the Condon Report by press, by representatives of influential science agencies in the Capitol, and by key Congressional leaders is not altered by holding up the serious shortcomings of the Report, and particularly of the Conclusions and Recommendations of the Report, to searching light of scrutiny and discussion.

Fortunately, as many of you will know, NICAP is currently preparing a rebuttal volume in which many of the more glaring defects of the Report will be examined in detail. NICAP members here, and throughout the country, ought to be apprised of the highly adverse impact of the Condon Report in those chambers most crucially related to initiation of any new and more adequate program of UFO studies; the longer-term objectives of NICAP must not be put aside in favor of secondary goals at this critical stage of the curious history of the UFO puzzle. Rather than hearing less about the Condon Report, I submit that NICAP members should hear very much more about it. The Condon Report is now the crucial factor, the pivotal point, in the immediate future evolution of insight into the profoundly mysterious nature of the UFO phenomena. I say that because I feel sure that neither individual scientists nor private groups like NICAP can mount an effort capable of solving this mid-twentieth century mystery that has puzzled us for over twenty years. It will demand the kind of organized scientific effort that will come only when those who guide policy in our national science-related agencies (NASA, NSF, ONR, AFOSR, etc.) recognize the nature and the scope of the UFO problem. So long as they remain under the misimpression that the Condon Report is the last word on UFOs, nothing useful will happen here.

\* \* \*

The best way to convey some notion of the disquieting inadequacies of the Condon Report is to cite specific examples. I shall mention a number in my remarks but will here put down a summary of just a single illustrative case for your subsequent perusal.

On p. 141 of the Bantam edition of the Condon Report (*Scientific Study of Unidentified Flying Objects*, 1969, 965 pp., paperback, \$1.95, Bantam Books, N.Y.), you will find a two-paragraph discussion of a case at Kirtland AFB, Albuquerque, N.M., Nov. 4, 1957. This is an example of a UFO report not previously known outside of Air Force Project Bluebook channels, of which the Condon Report contains perhaps a dozen instances in its total set of around 90 cases analyzed.

Immediately upon reading it, I became quite curious about it; more candidly, I became quite suspicious about it. For, as you will note on reading it for yourself, it purports to explain an incident in terms of an hypothesis with some glaringly improbable assumptions, and makes a key assertion that is hard to regard as factual. Let me quote from the first descriptive paragraph:

Observers in the CAA (now FAA) control tower saw an unidentified dark object with a white light underneath, about the 'shape of an automobile on end', that crossed the field at about 1500 ft and circled as if to come in for a landing on the E-W runway. This unidentified object appeared to reverse direction at low altitude, while out of sight of the observers behind some buildings, and climbed suddenly to about 200-300 ft., heading away from the field on a 120° course. Then it went into a steep climb and disappeared into the overcast.

The Condon Report next notes that

"The Air Force view is that this UFO was a small, powerful private aircraft, flying without flight plan, that became confused and attempted a landing at the wrong airport. The pilot apparently realized his error when he saw a brightly-lit restricted area, which was at the point where the object reversed direction..."

The Report goes on to mention that the radar blip from this object was described by the operator as a "perfectly normal aircraft return", that the radar track "showed no characteristics that would have been beyond the capabilities of the more powerful private aircraft available at the time," and the conclusion arrived at in the Condon Report, without further discourse, is that:

"There seems to be no reason to doubt the accuracy of this analysis."

It seemed to me that there were several reasons "to doubt the accuracy of this analysis." First, let me point out that the first line or two of the account in the Condon Report contains information that the incident took place with "light rain over the airfield" late in the evening (2245 – 2305 MST). Thus we are asked to accept the picture of a pilot coming into an unfamiliar airfield at night and under rain-conditions, and doing a 180° turn at so low an altitude that it could subsequently **climb suddenly** to about 200-300 ft; and we are asked to accept the picture of this highly hazardous low-altitude nighttime turn being executed so sharply that it occurred "while out of sight of the observers behind some buildings." Now these are not casual bystanders doing the observing, but CAA controllers in a tower designed and located to afford full view of all aircraft operations occurring in or near its airfield. Hence my reaction to the cited Air Force explanation, which the Condon Report merely endorses without further discussion, was a reaction of doubt. Pilots don't live long who execute strange and dangerous maneuvers of the type implied in this explanation. And CAA towers are not located in such a manner that "buildings" obscure so large a block of airfield-airspace as to permit aircraft to do 180°



turns while hidden from tower view behind them (at night, in a rain!).

So I began a check on that case, just as I concurrently began checks on many other unconvincing explanations one finds all through the Condon Report. In my talk, I shall be able to present a more complete account than I can here of what I found. But let me try to summarize briefly: First of all, in this case as in essentially all others of the 90 or so cases presented in the Report, no witness-names are given, a feature that does not facilitate independent case-checks, needless to say. But by beginning my inquiries through the FAA, I soon got in touch with both of the two CAA tower observers, both of whom are still with FAA, one in Oklahoma, one in California. Concurrently, I initiated a number of inquiries concerning the existence of any structures back in 1957 that could have hidden an aircraft from tower view in the manner suggested by the Report. What I ultimately learned constitutes only one example of many that back up the statement I have been making recently to many professional groups: The National Academy of Sciences is going to be in a most awkward position when the full picture of the inadequacies of the Condon Report is recognized; for I believe it will become all too obvious that the Academy placed its weighty stamp on this dismal report without even a semblance of rigorous checking of its contents.

The two tower controllers, R. M. Kaser and E. G. Brink, with whom I have had a total of five telephone interviews in the course of clarifying the case, explained to me that the object was so unlike an aircraft and exhibited performance characteristics so unlike those of any aircraft flying then or now that the "private aircraft" explanation was quite amusing. Neither had heard of the Air Force explanation, neither had heard of the Condon Project concurrence therein, and, most disturbing of all, neither had ever heard of the Condon Project: **No one on the Condon Project ever contacted these two men!** A half-million-dollar Project, a Report filled with expensive trivia and matters shedding essentially no light on the heart of the UFO puzzle, and no Project investigator even bothers to hunt down the two key

witnesses in this case so casually closed by easy acceptance of the Bluebook "aircraft" explanation.

Kaser and Brink's account matched impressively the information that I subsequently secured from Bluebook files based on an Air Force interrogation made 11/6/57, the day following the incident. The object came down in a rather steep dive at the east end of Runway 26, left the flight line, crossed runways, taxiways and unpaved areas at about a 30-degree angle, and proceeded towards the CAA tower at an altitude they estimated at a few tens of feet above ground. Quickly getting 7X binoculars on it, they established that it had no wings, tail, or fuselage, was elongated in the vertical direction, and exhibited a somewhat egg-shaped form (Kaser). It appeared to be perhaps 15-20 ft in vertical dimension, about the size of an automobile on end, and had a single white light in its base. Both men were emphatic in stressing to me that it in no way resembled an aircraft.

It came towards them until it reached a B-58 service pad near the northeast corner of Area D (Drumhead Area, a restricted area lying south of the E-W runway at Kirtland.) That spot lay about 3000 ft ENE of the tower, near an old machine-gun calibration bunker still present at Kirtland AFB. There it proceeded to stop completely, hover just above ground in full view for a time that Kaser estimated at about 20 seconds, that Brink suggested to me was more like a minute, and that the contemporary Air Force interrogation implied as being rather more than a minute. Next they said it started moving again, still at very low altitude, still at modest speed, until it again reached the eastern boundary of the field. At that point, the object climbed at an extremely rapid rate (which Kaser said was far faster than that of such modern jets as the T-38). The Bluebook report expresses the witness' estimate of the climb rate as 45,000 ft/min, which is almost certainly a too-literal conversion from Mach 1. My phone-interview notes include a quote of Brink's statement to me that, "There was no doubt in my mind that no aircraft I knew of then, or ever operating since then, would compare with it." Both men were emphatic in stating to me that at no time was this object hidden by any buildings. I confirmed through

the Albuquerque FAA office that Area D has never had anything but chain-link fence around it, and that no buildings other than scattered one-story metal buildings ever existed either inside or outside Area D in that sector. The bunker is only about 15-20 feet high, judging from my own recent observations of it from the air. The Bluebook interrogation report contains no statements hinting that the object was ever hidden from view by any structures (although the Bluebook file contains the usual number of internally inconsistent and confusingly presented details that are so much a mark of the inadequacies of many Bluebook case-reports.

I shall not here attempt to describe in detail the radar "tracking" of the unknown, except to note that the unknown went south towards the vicinity of the Albuquerque Low Frequency Range Station, orbited there for a number of minutes, came back north to near Kirtland, took up a trail position about a half-mile behind an Air Force C-46 just then leaving Kirtland, and moved offscope with the C-46. The Nov. 6, 1957 report from Commander, 34th Air Div. to ADC and to the Air Technical Intelligence Command closed with the rather reasonable comment: "Sighting and descriptions conform to no known criteria for identification of UFOs." The followup report of Nov. 13, 1957, prepared by Air Intelligence personnel from Ent AFB, contains a number of relevant comments on the experience of the two witnesses (23 years of tower control work between them as of that date), and on their intelligence, closing with the remarks: "In the opinion of the interviewer, both sources (witnesses) are considered completely competent and reliable."

In my further remarks to you on this case, I shall try to point out how typical of both past USAF handling of UFO cases and of much of the Condon Report the above Kirtland case is. Bluebook files are bulging with inexplicable cases, well reported by reliable witnesses, cases that go back to well before 1950, and all these years the scientific community has been left with the gross misimpression that nothing significantly unexplainable was in all those files. Air Force consultants and panels have been able, through the very superficiality of their scrutiny of this body of evidence, to wave

it aside as one or another misidentification, and have failed to apprise the Air Force that it was effectively shoving under the rug matters of highest-order scientific significance.